



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
05.01.2005 Bulletin 2005/01

(51) Int Cl.7: **H01L 27/00**

(43) Date of publication A2:
07.06.2000 Bulletin 2000/23

(21) Application number: **99309643.7**

(22) Date of filing: **01.12.1999**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE
 Designated Extension States:
AL LT LV MK RO SI

(71) Applicant: **SANYO ELECTRIC Co., Ltd.**
Moriguchi-shi, Osaka 570 (JP)

(72) Inventor: **Yamada, Tsutomu**
Hozumi-cho, Motosu-gun, Gifu (JP)

(30) Priority: **01.12.1998 JP 34185798**
01.12.1998 JP 34185898
04.10.1999 JP 28318299
28.10.1999 JP 30712699

(74) Representative:
Cross, Rupert Edward Blount et al
BOULT WADE TENNANT,
Verulam Gardens
70 Gray's Inn Road
London WC1X 8BT (GB)

(54) **Emissive element and display device using such element**

(57) An EL element (60) comprises an anode (61), a cathode (67), and an emissive element layer (66) interposed between the two electrodes. A TFT is connected to the anode (61) at its source electrode (33s). The peripheral portion of the anode (61) and the entire region over the TFT are covered with a planarizing insulating film (17), and a part of the exposed portion of the anode

(61) is connected to the emissive element layer (66). According to the above arrangement, it is possible to prevent disconnection of the emissive element layer (66) which may be caused by an uneven surface created by the thickness of the anode (61), and to avoid formation of a short circuit between the anode (61) and the cathode (67).

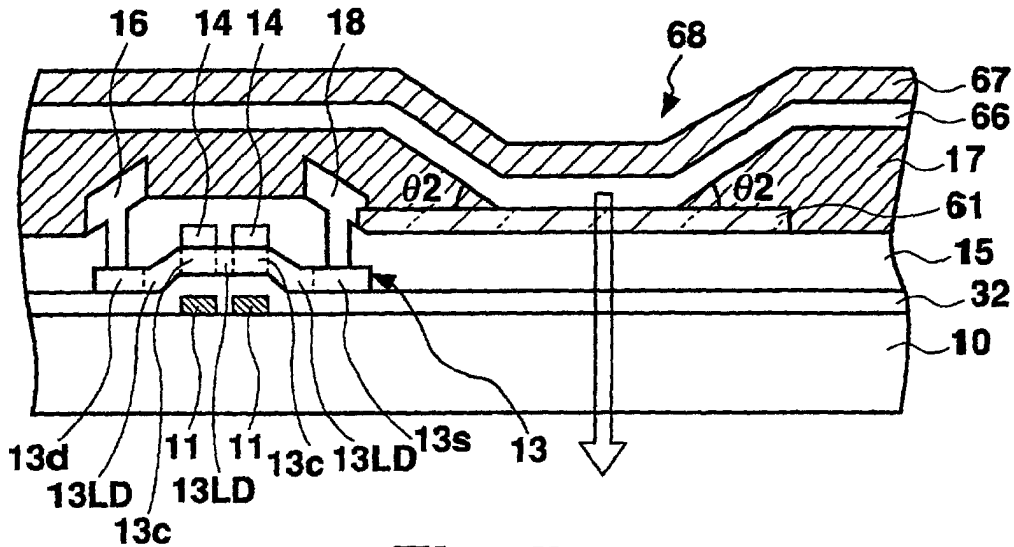


Fig. 7



European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 99 30 9643

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X A	EP 0 717 446 A (EASTMAN KODAK CO) 19 June 1996 (1996-06-19) * page 5, line 47 - page 6, line 3; figures *	1-5,7-9 6,10	H01L27/00
X	WO 98/36407 A (OZAWA TOKUROH ; KIMURA MUTSUMI (JP); SEIKO EPSON CORP (JP)) 20 August 1998 (1998-08-20) * figures 3-6,13 *	1-3,5-15	
P,X	-& EP 0 895 219 A (SEIKO EPSON CORP) 3 February 1999 (1999-02-03) * paragraph '0065! - paragraph '0069!; figures 3-6,13 *	1-3,5-15	
P,X	STEWART M ET AL: "POLYSILICON VGA ACTIVE MATRIX OLED DISPLAYS - TECHNOLOGY AND PERFORMANCE" INTERNATIONAL ELECTRON DEVICES MEETING 1998. IEDM TECHNICAL DIGEST. SAN FRANCISCO, CA, DEC. 6 - 9, 1998, NEW YORK, NY : IEEE, US, 1998, pages 32501-32504, XP000955568 ISBN: 0-7803-4775-7 * page 32.5.2, column 2, paragraph C - page 32.5.3, column 2, paragraph D *	1-5, 7-11,15	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H01L H05B
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		10 November 2004	De Laere, A
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03/02 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 99 30 9643

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

10-11-2004

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0717446	A	19-06-1996	US 5684365 A	04-11-1997
			EP 0717446 A2	19-06-1996
			JP 8234683 A	13-09-1996
WO 9836407	A	20-08-1998	CN 1217806 A	26-05-1999
			CN 1217806 T	26-05-1999
			CN 1217807 A	26-05-1999
			CN 1217807 T	26-05-1999
			DE 69819662 D1	18-12-2003
			DE 69819662 T2	09-06-2004
			EP 1255240 A1	06-11-2002
			EP 1337131 A2	20-08-2003
			EP 1359789 A1	05-11-2003
			EP 1336953 A2	20-08-2003
			EP 1363265 A2	19-11-2003
			EP 0917127 A1	19-05-1999
			EP 0895219 A1	03-02-1999
			WO 9836406 A1	20-08-1998
			WO 9836407 A1	20-08-1998
			JP 3528182 B2	17-05-2004
			JP 2004111356 A	08-04-2004
			JP 2004054260 A	19-02-2004
			JP 2004054261 A	19-02-2004
			JP 2004004910 A	08-01-2004
			JP 2004062183 A	26-02-2004
			JP 2004031356 A	29-01-2004
			JP 2004004911 A	08-01-2004
			JP 2004139091 A	13-05-2004
			JP 2004047494 A	12-02-2004
			TW 491985 B	21-06-2002
			TW 578130 B	01-03-2004
			TW 579039 Y	01-03-2004
			US 2002097213 A1	25-07-2002
			US 6462722 B1	08-10-2002
US 2002024493 A1	28-02-2002			
US 2002196206 A1	26-12-2002			
US 2003098827 A1	29-05-2003			
US 2003231273 A1	18-12-2003			
US 2004150591 A1	05-08-2004			
EP 0895219	A	03-02-1999	EP 0895219 A1	03-02-1999
			JP 3528182 B2	17-05-2004
			US 2002024493 A1	28-02-2002
			CN 1217806 A	26-05-1999
			CN 1217807 A	26-05-1999

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 30 9643

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

10-11-2004

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0895219	A	CN 1217807 T	26-05-1999
		DE 69819662 D1	18-12-2003
		DE 69819662 T2	09-06-2004
		EP 1255240 A1	06-11-2002
		EP 1337131 A2	20-08-2003
		EP 1359789 A1	05-11-2003
		EP 1336953 A2	20-08-2003
		EP 1363265 A2	19-11-2003
		EP 0917127 A1	19-05-1999
		WO 9836406 A1	20-08-1998
		WO 9836407 A1	20-08-1998
		JP 2004111356 A	08-04-2004
		JP 2004054260 A	19-02-2004
		JP 2004054261 A	19-02-2004
		JP 2004004910 A	08-01-2004
		JP 2004062183 A	26-02-2004
		JP 2004031356 A	29-01-2004
		JP 2004004911 A	08-01-2004
		JP 2004139091 A	13-05-2004
		JP 2004047494 A	12-02-2004
		TW 491985 B	21-06-2002
		TW 578130 B	01-03-2004
		TW 579039 Y	01-03-2004
		US 2002097213 A1	25-07-2002
		US 6462722 B1	08-10-2002
		US 2002196206 A1	26-12-2002
		US 2003098827 A1	29-05-2003
		US 2003231273 A1	18-12-2003
		US 2004150591 A1	05-08-2004